

PO No	Supplier	Line Item No	Ref No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	P D
P0039766	MES002-VC	1	1	Net 30	M304TS0.750W.045	304 Sq Tube .75X.75X.049W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft				400	5/18/2018	160	S071984	Stock	5/16/2018	\$ 3.80 / ft	0		
		2			M304TS0.750W.065	304 Sq Tube .75X.75X.065W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SCUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft				400			S071985	Stock	5/16/2018	\$ 2.75 / ft	0		
		3			M304B1.500X1.500	M304 Bar: 1.500 x 1.500 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				12		12	S071986	Stock	5/16/2018	\$ 39.80 / ft	0		
		4			MT-4140-S-1.000X10.000	AISI 4140 Steel Sheet/Plate				12			S071987	Stock	5/16/2018	\$ 88.60 / ft	0		
		5			MT-4140-S-1.750X10.000					12			S071988	Stock	5/16/2018	\$ 151.68 / ft	0		
		6			MT-4140-S-0.750X2.250	4140 Steel Bar 0.750 X 2.250 : MATL: AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395 receive ft				6		6	S071989	Stock	5/16/2018	\$ 20.67 / ft	0		
		7			MT-4140-S-1.500X2.000	4140 Steel Bar 1.500 X 2.000 : MATL: AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395 receive ft				6			S071990	Stock	5/16/2018	\$ 28.99 / ft	0		
		8			M4140H-R0.375	4140 Round Bar .375 : AISI 4140H ROUND BAR PER AISI4140OR ASTM A304-02/-4/-434-BC/-A193-03- GRADE B7/-A29-03/A322-51 OR UNS#-G41400 MINIMUM ULTIMATE TENSILE STRENGT::100 KSI MINIMUM YIELD TENSILE STRENGT::66KSI receive ft				12		15	S071991	Stock	5/16/2018	\$ 5.85 / ft	0		
												Total:	860	623					

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7      Tel.: 450 641-3330

**Customer:** 6323336

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

### Shipping Order

15/05/2018

<b>Order</b>	:	134879
<b>Reference</b>	:	39766
<b>Bid</b>	:	27221
<b>Ship</b>	:	PICK UP / PICK UP

### Ship To

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delive <i>r</i>	B/O Qty
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
	***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N			
SSQT34340494	304 SQ TUBE .750 X .049 WALL 20 x 20' ***** ht;9H855	400	160	240
SSQT34340654	TUBE SS304 180 GRIT 3/4" X 3/4" X .065" 20 x 20' ***** ht;TS3041202	400	400	0
SSQ1124	304 SQU 1.500 1 x 12.5' ht;268423	12.5	12.5	0
MP141H	4140 HTSR PLATE 1.00" THICK 2 x 10" x 72" HT: PM94723	434	434	0
MP13441H	4140 HTRS PLATE 1.750" THICK 2 x 10" x 72" HT: PM94381	747	747	0
MP3441H	4140 HTSR TFA PLATE .750 THICK P.M 1 x 2.25" x 64"1/4	40	40	0

\*\*\* Continued on Next Page \*\*\*

METAUX SOLUTIONS INC  
2625 BOUL JACQUES CARTIER EST  
LONGUEUIL, QUEBEC  
J4N 1L7

Tel. : 450 641-3330

**Customer:** 6323336

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

### Shipping Order

15/05/2018

**Order** : 134879  
**Reference** : 39766  
**Bid** : 27221  
**Ship** : PICK UP / PICK UP

### Ship To

Same

Tel.: 1 613 632-3336

Item No.	Description	Qty	Qty. Delivered	B/O Qty
MP11241H	HT: PM94680 4140 HTSR PLATE 1.5" THICK 1 X 2" x 72"	71	71	0
MR3841H	HT: PM94823 4140 HTSR .375" DIA 1 X 4' 1 X 5' 1 X 6' ht;186784 ship journey collect jp	15	15	0

3/4 jours

Page : 2

Shipping : \_\_\_\_\_  
Package No. : \_\_\_\_\_

Ref. : \_\_\_\_\_

Merchandise Received: \_\_\_\_\_



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER PO039766

<b>Supplier:</b>	MES002-VC Metaux Solutions 2625 boul Jacques-Cartier Est Longueuil QC J4N 1L7 Canada Phone: 800 558 8858 Fax: 514 633 8044	<b>PO No:</b>	PO039766
		<b>PO Date:</b>	5/1/18
		<b>Due Date:</b>	5/10/18
		<b>Purchase Order Revision:</b>	
		<b>Revision Date:</b>	
		<b>Ship-To Contact:</b>	Lavoie, Chantal Phone: clavoie@dartaero.com
<b>Ship To:</b>	1270 Aberdeen Street Hawkesbury ON K6A 1K7 Canada Phone: 613-632-5200	<b>Via:</b>	Ground
		<b>Pymt Terms:</b>	Net 30
		<b>Freight Terms:</b>	
		<b>Special Comments:</b>	BID 27221

E-MAILED  
MAY 01 2018

## Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	M304TS0.750W.049		304 Sq Tube .75X.75X.049W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft	Firmed	5/10/18	400 ft	0 ft	400 ft	\$3.80/ft	\$1,520.00
2	M304TS0.750W.065		304 Sq Tube .75X.75X.065W : MATERIAL: AISI 304/316 SEAMLESS STAINLESS STEEL SQUARE TUBING AS PER ASTM A554 MILL FINISH OR ASTM A269 MILL FINISH receive ft	Firmed	5/10/18	400 ft	0 ft	400 ft	\$2.75/ft	\$1,100.00
3	M304B1.500X1.500		M304 Bar 1.500 x 1.500 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	5/10/18	12 ft	0 ft	12 ft	\$39.80/ft	\$477.60
4	MT-4140-S-1.000X10.000		AISI 4140 Steel Sheet/Plate	Firmed	5/10/18	12 ft	0 ft	12 ft	\$88.6008333/ft	\$1,063.21

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
Line Item Note	2 pcs cut at 6 ft length									
5	MT-4140-S-1.750X10.000		AISI 4140 Steel Sheet/Plate	Firmed	5/10/18	12 ft	0 ft 12	12 ft	\$151.67916/ft MAY 16 2018	\$1,820.15
Line Item Note	2 pcs cut at 6 ft length									
6	MT-4140-S-0.750X2.250		4140 Steel Bar 0.750 X 2.250 : MAT'L: AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395 receive ft	Firmed	5/10/18	6 ft	0 ft 6	6 ft	\$20.6666/ft MAY 16 2018	\$124.00
7	MT-4140-S-1.500X2.000		4140 Steel Bar 1.500 X 2.000 : MAT'L: AISI 4140 / 4142 STEEL SHEET OR PLATE MINIMUM ROCKWELL C = 28 Rc MAXIMUM ROCKWELL C = 32 Rc ASTM A829, AMS 6395 receive ft	Firmed	5/10/18	6 ft	0 ft 6	6 ft	\$28.991666/ft MAY 16 2018	\$173.95
8	M4140H-R0.375		4140 Round Bar .375 : AISI 4140H ROUND BAR PER AISI4140OR ASTM A304-02/-A-434-BC/-A193-03- GRADE B7/-A29-03/-A322-91 OR UNS#-G41400 MINIMUM ULTIMATE TENSILE STRENGTH=100 KSI MINIMUM YIELD TENSILE STRENGTH=66KSI receive ft	Firmed	5/10/18	12 ft	0 ft 15	12 ft	\$5.85/ft MAY 16 2018	\$70.20

Grand Total: \$6,349.11

## Order Notes

**Order Notes**

- Procurement Quality Clauses
- A005 right of entry
- A012 chemical and physical test report
- A016 personnel qualification
- A017 raw material identification (as applicable)
- A026 certification of material conformance
- A041 quality management system
- A042 dart notification by supplier
- A043 retention of quality documents
  
- A048 counterfeit parts avoidance, detection, mitigation and disposition program
- A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.



Plex 5/1/18 2:50 PM *dart.lavoie.chantal*

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304t50.750W.065  
 DATE: MAY 16 2019

PO / BATCH NO.: 039766/5071985

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 400  
 QUANTITY INSPECTED: 400  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.065  
 THICKNESS RECEIVED: W.065  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	Astm A534-16
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	Hastit t53041202
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY:	<u>DAS</u> <u>11</u>	SIGNED OFF BY:	
DATE:	<u>9-89</u> <u>MAY 16 2019</u>	DATE:	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

001738

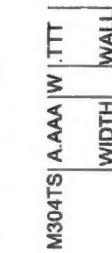
COMPANY WITH QUALITY ASSURANCE SYSTEM

**FOSHAN VINHAY STAINLESS STEEL CO., LTD.**  
AZUREZA ROAD SOUTH CHINA HUSTONNE INDUSTRIAL NAME: DAIDAO TOWN, FOSHAN DEFACT.  
FOSHAN CITY GUANGDONG P.R. CHINA

CERTIFICATE 3.1 ACCORDING TO EN 1224															
N°2		TESTS								TESTS					
Number		Temperature				Humidity				Vibration				Impact	
N°	Test	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD	Min.	Max.
		°C	°C	°C	°C	%	%	%	%	g	g	g	g	mm	mm
1	TS3041202	1-1270-006	247	190	20	0.049	0.385	0.340	0.0340	0.021	18.150	1	1	304	324
2	TS3041202	2-1270-006	102	152	22	0.040	0.366	0.340	0.0360	0.022	15.100	1	1	304	324
3	TS3041110	5470-009	67	130	20	0.040	0.254	0.250	0.0250	0.021	18.146	1	1	304	323
4	TS3041202	3470-005	160	48F	20	0.040	0.385	0.340	0.0340	0.021	18.150	1	1	304	324
5	TS3041202	3470-006	177	180	20	0.040	0.385	0.340	0.0360	0.021	18.150	1	1	304	324
6	TS3041205	7070-003	182	MF	20	0.050	0.359	0.347	0.0361	0.020	18.151	1	1	304	325
7	TS3041202	1-1470-005	202	180	20	0.040	0.365	0.340	0.0340	0.021	18.150	1	1	304	324
8	TS3041202	1-1270-006	180	100	20	0.040	0.355	0.340	0.0340	0.021	18.150	1	1	304	324
9	TS3041202	1-1270-005	257	MF	20	0.040	0.265	0.340	0.0360	0.021	18.150	1	1	304	324
10	TS3041202	270-005	41	190	20	0.040	0.365	0.340	0.0340	0.021	18.150	1	1	304	324
11	TS3041202	270-006	180	MF	20	0.040	0.265	0.340	0.0360	0.021	18.150	1	1	304	324
12	TS3041204	370-12	30	MF	20	0.051	0.367	0.342	0.0363	0.021	18.152	1	1	304	326
13	TS3041202	570-005	80	MF	20	0.040	0.365	0.340	0.0360	0.021	18.150	1	1	304	324
14	TS3041202	347-5470-005	102	MF	20	0.040	0.365	0.340	0.0360	0.021	18.150	1	1	304	324
15	TS3041202	1-147-1-1470-005	167	MF	20	0.040	0.365	0.340	0.0360	0.021	18.150	1	1	304	324
16	TS3041202	1-147-1-1470-005	33	MF	20	0.040	0.364	0.340	0.0360	0.021	18.150	1	1	304	324
17	TS3041202	1-127-1-1270-005	100	180	20	0.040	0.358	0.340	0.0340	0.021	18.150	1	1	304	324
18	TS3041202	1-127-1-1270-005	110	MF	20	0.040	0.365	0.340	0.0340	0.021	18.150	1	1	304	324
19	TS3041202	5470-005-105	191	180	20	0.040	0.364	0.340	0.0360	0.021	18.150	1	1	304	324
20	TS3041200	370-005	110	MF	20	0.040	0.348	0.340	0.0340	0.021	18.150	1	1	304	323
21	TS3041200	2-127-0-005	144	MF	20	0.040	0.348	0.340	0.0340	0.021	18.150	1	1	304	323

PURCHASE MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBING

**D**  
FINISH:  
ASTM A554 MILL FINISH  
OR  
ASTM A269 MILL FINISH



WHERE: A.AAA = WIDTH IN INCHES  
.TTT = WALL THICKNESS IN INCHES

PART NUMBER:

M304TS | A.AAA | W | .TTT |  
WIDTH | WALL |

PART NUMBER: EG. 0.75" X 0.75" X 0.049 WALL = M304TS0.750W.049

**RELEASED**  
R 2014-05-26  
*[Signature]*

REV.	DESCRIPTION	BY DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b>
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	REV. D
MFG. APPR.	M304TS	DRAWING NO.
APPROVED	<i>[Signature]</i>	SHEET 1 OF 1
DE APPR.	<i>[Signature]</i>	SCALE
DATE	14.05.20	NONE

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COMPANY WITH QUALITY ASSURANCE  
SOLUTION

FOSHAN VENICE STAINLESS STEEL CO., LTD.  
Address: Foshan, Guangdong, China  
Postcode: 528300

ITEM NO.	ASTM A554-16	TEST REPORT											
		TEST DATA			TEST DATA			TEST DATA			TEST DATA		
	mm	kg/mm <sup>2</sup>											
1. Tensile Strength	1000	207	200	20	20	20	20	20	20	20	20	20	20
2. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
3. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
4. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
5. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
6. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
7. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
8. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
9. Yield Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
10. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
11. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
12. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
13. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
14. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
15. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
16. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
17. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
18. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
19. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18
20. Tensile Strength	900	197	190	19	19	19	19	19	19	19	19	19	19
21. Yield Strength	850	187	180	18	18	18	18	18	18	18	18	18	18



VENICE

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B1.500X1.500  
 DATE: MAY 16 2018

PO / BATCH NO.: 039266/5071986

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12  
 QUANTITY INSPECTED: 12  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.500  
 THICKNESS RECEIVED: 1.500  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>As per A276</i>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>Heat# 268423</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY:	<u>DAS</u> <u>11</u>	SIGNED OFF BY:	
DATE:	<u>MAY 16 2018</u>	DATE:	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

D

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**PURCHASE MATERIAL:** AISI 304/316 SS BAR OR AISI 304/316 SS PLATE  
 (NOTE: AISI 303 NOT ACCEPTABLE)  
**SPECIFICATION:** ASTM A276 OR ASTM A240  
**PART NUMBER:** M304BT-TT|WWWWWW|THICK|WIDTH  
**WHERE "TT" = THICKNESS IN INCHES**  
 AND "WWWWWW" = WIDTH IN INCHES  
**EG. 0.5" X 3.0" BAR = M304B0.500X03.000**  
**EG. 0.5" X 12.0" PLATE = M304B0.500X12.000**

D

D

C

C

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A

2010-11-30  
JW

DESIGN		DRAWN BY		CHECKED BY		APPROVED BY		DATE	
C	ADDED PLATE TO PURCHASE MATERIAL, ADDED PLATE RELATED SPECIFICATIONS, AND EG. CHANGED TITLE FROM 304/316 BAR TO 304/316 BAR/PLATE.	MB	10.11.25	CP	09.07.15	PH	05.06.10		
B	REFORMAT DWG. ADD SPECS (ZN DB-1).								
A	NEW ISSUE								
REV.	DESCRIPTION	BY		DATE					
	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA								
	DRAWING NO.			REV. C					
	M304B			SHEET 1 OF 1					
	TITLE			SCALE					
	304/316 BAR/PLATE			NTS					
	DATE	10.11.25		Copyright © 2005 by DART AEROSPACE LTD. Not to be copied or reproduced without written consent from DART AEROSPACE LTD.					



# Acciaierie Valbruna S.p.A.



**CERTIFICATO DI COLLAUDO  
ABNAHMEPRUEFZEUGNIS  
INSPECTION CERTIFICATE  
CERTIFICAT DE RECEPTION  
EN 10204 (2004), 3.1**

QUALITY MANAGEMENT SYSTEMS IS CERTIFIED BY LLOYD'S REGISTER

Cleato / Bestell/Purchaser/Clerk

Avviso di Spedimento:  
UNIFORM INFORMATION SHEET D-VI16001290

Certificato nr: MEST806705/2016/  
PROSPETTIVA/11

Produttore: ACCIAIERIE VALBRUNA S.p.A.  
Prodotto/Produkt/produit

Ortbra Art. 67890 PENN PO19727  
Borchia/Torcia/Chimica

Conforme ordine nr: EI16000474  
Verso/verso/verso

Stato di fumatura: Hot rolled - Annealed Cold Drawn  
Cialzimento/Deformazione

Tipo di Elaborazione: E+AOD  
Elaborazione pressoché a bassissima



Marchio di Pubblica:  
Sistema di Qualità  
Torcia  
Effe di Rotta/Industria

Intergranular corrosion test per ASTM A282 prod. E: ok,  
Absence of cracks at 20 x magnification after bend test.  
Reduction ratio = 20,3 : 1  
Annealing temperature: 1940°F for 1 h/water.  
Material is DFARS Compliant

Stampa da stampante/Stampa da stampante

Puntata del Collaudatore:  
Stampa da stampante/Stampa  
Stampante stampante da stampante

MR19  
KATE  
OPTION

Sono state soddisfatte tutte le condizioni richieste  
Die genannten Anforderungen sind erfüllt.  
The named has been fulfilled in accordance with the requirements  
Le suivantes sont toutes remplies des exigences

Controllo antimiscelazione: OK  
No mixing of different materials  
Abmischung verschiedener Materialien  
Aucune contamination entre les matériaux

Controllo valori e dimensioni: soddisfa le esigenze  
Dimensions and values meet requirements  
Vale la pena que las dimensiones cumplen los requisitos  
Ces sont dans l'ensemble satisfaisantes

Molded and manufactured in Italy

No welding or weld repair - Material free from Mercury contamination

We declare that the finished product is checked for radioactive contamination through Portal System when it leaves the production plant.

The Quality Management System is Certified acc. Pressure Equipment Directive 97/23/EC Annex I & A3 by TUEV and LLOYD'S  
Any act of tampering, modification, alteration, counterfeiting and/or fabrication and/or any other action which modifies the contents of this test certificate shall constitute a violation  
of applicable civil and criminal laws. Acciaierie Valbruna shall protect its rights and interests before any competent court, authority and jurisdiction.

Merital and/or Valplus grades/products are manufactured with casting techniques to control composition, distribution, size and shape of non-metallic inclusions for improved  
machinability.

The supplied product conforms to requirements expressly requested by the purchaser and conforms to requirements specified by certified norms and standards. Should the  
product be used for more severe, critical and/or in any case different applications than those the material is generally intended for, any different and/or supplementary  
requirements shall be specifically demanded, at least, upon order of the Product by the Purchaser. Acciaierie Valbruna SpA shall not be responsible for any improper use of the

Vicenza, 21/01/16  
VC0008  
(AGG.MCE)

Il collaudatore di stabilimento / der Werkstattverantwortliche / Werks inspektor / L'agent d'usine

M.Rizzotti

Pagina - 2 di 2

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4140H.R0.375  
 DATE: MAY 16 2018

PO / BATCH NO: 039766/5071991

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 15  
 QUANTITY INSPECTED: 15  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375  
 THICKNESS RECEIVED: 0.375  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<u>Y</u> <u>N</u>	
CORRECT FINISH	<u>Y</u> <u>N</u>	
CORROSION	<u>Y</u> <u>N</u>	
CORRECT GRAIN DIRECTION	<u>Y</u> <u>N</u>	
CORRECT MATERIAL PER M-DRAWING	<u>Y</u> <u>N</u>	<i>Astan 304</i>
CORRECT THICKNESS	<u>Y</u> <u>N</u>	
PHOTO REQUIRED	<u>Y</u> <u>N</u>	
CORRECT REF # TO LINK CERT	<u>Y</u> <u>N</u>	<i>Heat # 186784</i>
CORRECT MATERIAL IDENTIFICATION	<u>Y</u> <u>N</u>	
CORRECT M# ON THE MATERIAL	<u>Y</u> <u>N</u>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<u>Y</u> <u>N</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	<u>Y</u> <u>N</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-89</u> <u>MAY 16 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



**Métaux Solutions**

L'alliage de qualité et de rapidité !

2625, Boul. Jacques-Cartier Est  
Longueuil (Québec) J4N 1L7

[info@metauxsolutions.com](mailto:info@metauxsolutions.com)  
T 450 641-3330  
Ext : 1-800-967-2003

### CERTIFICAT D'ANALYSE

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

8 mai 2018

Description: 4142 CF HEAT TREATED S/R OR STRESS FREE BAR  
3/8 RD X 12' R/L  
HEAT: 186784

Line Total: 23 LB

ITEM: 506029

Specifications:

ASTM A434 CL BC 12  
ASTM A304 11  
ASTM A29 15  
EN 10204 3.1 04  
ASTM E112 13

ASTM A193 GR B7 15  
ASTM A322 13  
ASTM A962 14  
ASTM A255 10  
ASTM E381 01

ASTM A108 13  
ASTM A331 95  
MIC2016 12  
ASTM E10 15  
ASTM E709 14

### CHEMICAL ANALYSIS

C	MN	SI	P	S	CR	NI	MO
0.42	0.94	0.26	0.012	0.021	1.02	0.10	0.23
CU	AL	CA					
0.16	0.021	0.0009					

RCPT: R186462

COUNTRY OF ORIGIN : SPAIN

### MECHANICAL PROPERTIES

DESCRIPTION	YLD STR KSI	ULT TEN KSI	%ELONG IN 02 IN	%RED IN AREA	HARDNESS BHN
	126.0	139.0	19.8	60.8	291

IDEAL DIAMETER : 6.426 IN GRAIN SIZE : 7 -

### CLEANLINESS

	A		B		C		D	
	THIN MAX	THICK MAX	THIN MAX	THICK MAX	THIN MAX	THICK MAX	THIN MAX	THICK MAX
E45	1.5	0.0	1.0	0.0	0.0	0.0	0.5	0.0



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Longueuil (Québec) J4N 1L7

[info@metauxsolutions.com](mailto:info@metauxsolutions.com)  
T 450 641-3330  
Ext : 1-800-967-2003

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

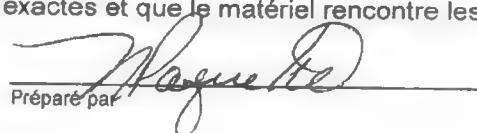
STRAND CAST      VACUUM DEGASSED  
MATERIAL IS FREE FROM MERCURY CONTAMINATION  
NO WELD REPAIR PERFORMED ON MATERIAL      EDDY CURRENT/MAGNETIC TEST PERFORMED  
THERMAL TREATMENT: OK  
QUENCHED 1562F 45 MINUTES  
OIL COOLED 95F START, 112F FINISH  
TEMPERED 1202F 150MINUTES, AIR COOLED  
MACRO: OK  
MICRO1: OK

-----  
**COMMENTS**

melt & mfg in USA  
free from harmful radioactive contamination  
red. ratio 305.9:1

COMMANDÉ : 134879

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

  
Préparé par



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. M4140H-R	REV. A SHEET 1 OF 1
DATE 05.02.21		TITLE 4140 ROUND BAR	SCALE 1:1
A	05.02.21	NEW ISSUE	

PURCHASE MATERIAL: AISI 4140H ROUND BAR *d*

PER AISI 4140 OR *ASTM A304-02 / -A-434-BC /*

*-A193-03 - GRADE-B7 / -A29-03 / -A322-91* OR

UNS # - G41400

MINIMUM ULTIMATE TENSILE STRENGTH = 100 ksi

MINIMUM YIELD TENSILE STRENGTH = 66 ksi

PART NUMBER: M4140H-R | D.DDD | WHERE D.DDD = DIAMETER IN INCHES  
DIA

EG.  $\frac{3}{8}$ " ROUND BAR = M4140H-R 0.875

*RELEASED  
05.02.25 [Signature]*

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## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140-S-1500 X 2.00  
 DATE: MAY 16 2018

PO / BATCH NO.: 039766/501970

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 6'  
 QUANTITY INSPECTED: 6'  
 QUANTITY REJECTED: 0'

THICKNESS ORDERED: 1.500  
 THICKNESS RECEIVED: 1.500  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORROSION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<i>Action A-829</i>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
PHOTO REQUIRED	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<i>Next to Part 94823</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>11</u>	SIGNED OFF BY: _____
DATE: <u>9-89 MAY 16 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



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2625, Boul. Jacques-Cartier Est  
Longueuil (Québec) J4N 1L7

[info@metauxsolutions.com](mailto:info@metauxsolutions.com)

T 450 641-3330

Ext : 1-800-967-2003

**CERTIFICAT D'ANALYSE**

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

11 mai 2018

MSP15000

1-1/2 X 34" X 146"

1.00

2,147.00

0.00

PLATE 4140/42 PREHARD

ASTM A-829

DFARS Compliant

PLATE# : 426495a

Country of Origin SLOVENIA

PM HEAT#:

94823

BHN

294.00

C -	0.4000	Mn -	0.7800	P -	0.0080	S -	0.0005	Si -	0.2340	Ni -	0.1000
Cr -	0.9800	Mo -	0.1500	Cu -	0.2020	V -	0.0330				

ITEM 7: 1 X 2" X 72"

COMMANDE : 134879

REF : 39766

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE  
 MAXIMUM ROCKWELL C = 28 Rc  
 MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION:  
 ASTM A829, AMS 6395

PART NUMBER:

MT-4140-S-[T].[TT] x [W.WWW]  
 WHERE "T.[TT]" = THICKNESS IN INCHES  
 WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063  
 EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	16-544	18.2.13	VM	ML

DART AEROSPACE		Handwritten: Original Copy
Title		
AISI 4140 / 4142 STEEL SHEET OR PLATE		
Part No	MT-4140-S	Rev A
Tool No		
Initials and Date		
Designed by:	VM 2/15/2018	Dimensions
Drawn by:	VM 02/15/2018	Fractions: $\frac{1}{16}$
Checked by:	VM 02/15/2018	Angles: $\pm .5^\circ$
Info Review by:	VM 02/15/2018	Surfaces: $\pm .1$
Approved by:	ML 02/14/2018	Roundness:
Scale: NTS		
Sheet 1 of 1		
Copyright © 2018 by DART Aerospace LTD		
Printed on 2/15/2018 at 10:45 AM by VM		
File Name: MT-4140-S.dwg		
Page 1 of 1   AutoCAD 2018		

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140-S-0.750X2.250  
 DATE: MAY 16 2019

PO / BATCH NO.: 039766/5071989

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 61  
 QUANTITY INSPECTED: 61  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750  
 THICKNESS RECEIVED: 0.750  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>Astan A-829</i>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>Heat# Pm 94680</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u>	SIGNED OFF BY: _____
DATE: <u>9-05-2019</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

## SPECIFICATION CONTROL DRAWING

1	2	3	4	5	6	7	8
REV	ECN #	DESCRIPTION	DATE	BY	APPROVED		
A	18-544	NEW ISSUE	18.2.13	VM	ML		

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE  
 MAXIMUM ROCKWELL C = 28 Rc  
 MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION:

ASTM A829, AMS 6395

PART NUMBER:

MT-4140-S-[T].[TTT]X[W.WWW]  
 WHERE "T.[TTT]" = THICKNESS IN INCHES  
 WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063  
 EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

C

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<b>DART</b> AEROSPACE	
Headquarters, Ontario, Canada	
AISI 4140 / 4142 STEEL SHEET OR PLATE	
PART NO.	REV
MT-4140-S	A
UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
DIMENSIONS NOT LISTED	
ARE IN MILLIMETERS	
TOLERANCES:	
JACK & JILLS	
ANGLES: 1/8"	
FRACTIONS: 1/16"	
ANGLES: 2.5°	
FRACTIONAL	
ANGLES: 1.5°	
FRACTIONAL	
ANGLES: 1.0°	
FRACTIONAL	
ANGLES: 0.5°	
FRACTIONAL	
ANGLES: 0.1°	
FRACTIONAL	
NOTES:	
SHEET 1 OF 1	
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**Métaux Solutions**

L'alliage de qualité et de rapidité!

2625, Boul. Jacques-Cartier Est  
Longueuil (Québec) J4N 1L7

[info@metauxsolutions.com](mailto:info@metauxsolutions.com)

T 450 641-3330

Ext : 1-800-967-2003

### CERTIFICAT D'ANALYSE

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

11 mai 2018

MSP07500  
3/4 X 33 3/4" X 144 15/16"

1.00 1,075.00 0.00

PLATE 4140/42 PREH

ASTM A-829  
DFARS Compliant  
PLATE# : 425347b  
Country of Origin SLOVENIA

PM HEAT# : 94680 BHN 318.00  
C - 0.4000 Mn - 0.7840 P - 0.0080 Si - 0.2120 Ni - 0.1300  
Cr - 0.9800 Mo - 0.1600 Cu - 0.2010 V - 0.0410

ITEM 6: 1 X 2.25" X 64"1/4

COMMANDE : 134879

REF : 39766

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4140-S-1 60X10.000  
 DATE: MAY 16 2018

PO / BATCH NO.: 039766/5071988

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 12'  
 QUANTITY INSPECTED: 12'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.730  
 THICKNESS RECEIVED: 1.730  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>As per A829</i>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<i>Heat # Pm94381</i>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y <input type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>Das</u> <u>11</u>	SIGNED OFF BY: _____
DATE: <u>May 16 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE  
 MAXIMUM ROCKWELL C = 28 Rc  
 MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION:  
*ASTM A829, AMS 6395*

PART NUMBER:

MT-4140-S-(T.1TT) x (W.WWW)  
 WHERE "T.1TT" = THICKNESS IN INCHES  
 WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063  
 EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

REV	DESCRIPTION	EON #	DATE	BY	APPROVED
A	NEW ISSUE	IB-544	18.2.13	VM	ML

D

C

B

A

DART		AeroSpace	
Markham, Ontario, Canada		Rev A	
TITLE			
AISI 4140 / 4142 STEEL SHEET OR PLATE			
PART NO		REV	
MT-4140-S		A	
TOOL NO			
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. DIMENSIONS ARE IN MILLIMETERS. ANGLES ARE IN DEGREES. ANGLES ARE IN RADIANS.			
INITIALS AND DATE			
DRAWN BY: VM 2/13/2018			
CHECKED BY: VM 02/13/2018			
MFG REVIEW BY: VM 02/13/2018			
APPROVED BY: ML 02/13/2018			
SCALE: NBS			
COPIES: 20			
SHEET 1 OF 1			
INFORMATION CONTAINED HEREIN IS UNCLASSIFIED DATE 02/13/2018 BY SP-01-AIR FORCE PERSONNEL			

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**Métaux Solutions**

L'alliage de qualité et de rapidité !

2625, Boul. Jacques-Cartier Est  
Longueuil (Québec) J4N 1L7

[info@metauxsolutions.com](mailto:info@metauxsolutions.com)

T 450 641-3330

Ext : 1-800-967-2003

CERTIFICAT D'ANALYSE

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

11 mai 2018

**Product Description**

MSP17500

1-3/4 X 34 1/4" X 146 1/8"

ASTM A-829

DFARS Compliant

PLATE# : 421477B

Country of Origin SLOVENIA

C -	0.4100	Mn -	0.7910	P -	0.0070	S -	0.0003	Si -	0.2480	Ni -	0.2000
Cr -	0.9900	Mo -	0.1500	Cu -	0.2230	V -	0.0340				

**Shipped Pcs**

1.00

**Shipped Lbs**

2,519.00

**Back Ordred**

0.00

**PO LINE**

PM HEAT# : 94381

BHN 295.00

ITEM 5: 2 X 10" X 72"

COMMANDE : 134879

REF : 39766

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MF 4140-S-1000x10000  
 DATE: MAY 16 2019

PO / BATCH NO.: 039766/5071987

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 121  
 QUANTITY INSPECTED: 121  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000  
 THICKNESS RECEIVED: 1.000  
 SHEET SIZE ORDERED: 11x11  
 SHEET SIZE RECEIVED: 11x11

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y N	
CORROSION	<input checked="" type="radio"/> Y N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y N	Astan A829
CORRECT THICKNESS	<input checked="" type="radio"/> Y N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y N	Heat # Pm94723
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>11</u>	SIGNED OFF BY: _____
DATE: <u>9-68 MAY 16 2019</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



**Métaux Solutions**

L'alliage de qualité et de rapidité !

2625, Boul. Jacques-Cartier Est  
Longueuil (Québec) J4N 1L7

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Ext : 1-800-967-2003

**CERTIFICAT D'ANALYSE**

DART AEROSPACE LTD  
1270, ABERDEEN STREET  
HAWKESBURY, ONTARIO  
K6A 1K7

11 mai 2018

MSP10000

1 X 34 1/16" X 146"

1.00 1,446.00

0.00

PLATE 4140/42 PREHARD

ASTM A-829

DFARS Compliant

PLATE# : 425896A

Country of Origin SLOVENIA

PM HEAT# : 94723

BHN 300.00

C -	0.4050	Mn -	0.7560	P -	0.0080	S -	0.0010	Si -	0.2250	Ni -	0.1300
Cr -	0.9700	Mo -	0.1500	Cu -	0.2250	V -	0.0400				

ITEM 4: 2 X 10" X 72"

COMMANDE : 134879

REF : 39766

Métaux Solutions inc. certifie que les analyses sur ce document sont exactes et que le matériel rencontre les spécifications énumérées.

Préparé par


## SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE  
 MINIMUM ROCKWELL C = 28 Rc  
 MAXIMUM ROCKWELL C = 32 Rc

*ASTM A829*

AMS 6395

SPECIFICATION:

PART NUMBER:

MT-4140-S-[T.TTT]x[W.WWW]  
 WHERE "T.TTT" = THICKNESS IN INCHES  
 WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063  
 EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

D		C		B		A	
REV.	A	DESCRIPTION	NEW ISSUE	ECN #	18-544	DATE	18.2.13
						BY	VM
						APPROVED	ML
<b>DART</b> <b>AEROSPACE</b> <small>Markham, Ontario, Canada</small>							
<b>TITLE</b> AISI 4140 / 4142 STEEL SHEET OR PLATE <b>REV.</b> A							
<b>PART NO</b> MT-4140-S <b>REV.</b> A							
<small>UNLESS OTHERWISE DESIGNATED:          DIMENSIONS ARE IN INCHES          DIFFERENCES SHALL FOLLOW AS PER ASME Y14.5M          DRAWINGS: VMA 2/13/2018          CHECKED: VMA 02/13/2018          MFG REVIEWED: VMA 02/13/2018          APPROVED: VMA 02/14/2018</small>							
<small>THICKNESSES:          TOLERANCES:          FRACTIONS: ± 1/16          ANGLES: ± 3°          SURFACE ROUGHNESS: ± .1</small>							
<small>Copyright © 2018 by DART Aerospace Ltd.          All rights reserved. No part of this document may be reproduced without written consent from DART Aerospace Ltd.          Photo Dart Aerospace Ltd.</small>							
8	7	6	5	4	4	3	2

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TSO.750W.049  
 DATE: MAY 16 2018

PO / BATCH NO.: 039766/SO71984

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 160'  
 QUANTITY INSPECTED: 160'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .049  
 THICKNESS RECEIVED: .049  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <u>(N)</u>	
CORRECT FINISH	Y <u>(N)</u>	
CORROSION	Y <u>(N)</u>	
CORRECT GRAIN DIRECTION	Y <u>(N)</u>	
CORRECT MATERIAL PER M-DRAWING	Y <u>(N)</u>	Astan A554-16
CORRECT THICKNESS	Y <u>(N)</u>	
PHOTO REQUIRED	Y <u>(N)</u>	
CORRECT REF # TO LINK CERT	Y <u>(N)</u>	Heat # 9H855
CORRECT MATERIAL IDENTIFICATION	Y <u>(N)</u>	
CORRECT M# ON THE MATERIAL	Y <u>(N)</u>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <u>(N)</u>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <u>(N)</u>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>TT 9-89</u>	SIGNED OFF BY: _____
DATE: <u>MAY 16 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBING

FINISH:

ASTM A554 MILL FINISH  
OR  
ASTM A269 MILL FINISH

WHERE:

A.AAA = WIDTH IN INCHES

TTT = WALL THICKNESS IN INCHES

PART NUMBER:

M304TS | A.AAA | W | TTT |  
| WIDTH | | WALL |

EG. 0.75" X 0.75" X 0.049 WALL = M304TS0.750W.049



FINISH:

ASTM A554 MILL FINISH

WHERE:

A.AAA = WIDTH IN INCHES

TTT = WALL THICKNESS IN INCHES

PART NUMBER:

M304TS | A.AAA | W | TTT |  
| WIDTH | | WALL |

EG. 0.75" X 0.75" X 0.049 WALL = M304TS0.750W.049

D

C

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RELEASED  
2016-05-26  
*[Signature]*

\*SEAMLESS REMOVED FROM PURCHASE MATERIAL  
SPECIFICATION (SEE NOR14-3818)

"SEAMLESS" ADDED TO PURCHASE MATERIAL.

ASTM A269 SPEC ADDED TO FINISH.

REASON: SPEC ADDED FOR 1/2" TUBING

DRAWING MOVED TO "B" SIZE BORDER FINISH

REASON: SPEC ADDED FOR 1/2" TUBING

ADDED (SEE NOR 05-045 FOR DETAILS).

A NEW ISSUE

REV. DATE

DESCRIPTION

DS BY DATE

DESIGN DRAWN

DB DRAWN

CHEKED

APPR

APPROVED

DE APROV

**DART AEROSPACE LTD**  
HAWTHORPE, ONTARIO, CANADA

DRAWING NO.  
M304TS

SHEET 1 OF 1

REV. D

SCALE  
NONE

DATE  
14.05.20

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# Kingmaker Steel Co., Inc.

## *Stainless Steel Tube and Pipe*

133 Belmont Drive, Somerset, NJ 08873-1203  
 Tel.: (732) 302-1800, Fax: (732) 302-1822

0001336

Date: 1/11/2018

Invoice No: KM2018/0105

Purchase P009302

Order No:

Sold To:

### Material Certification

ISO 9001:2015

ISO 14001:2004  
 EN 10204/3.1B

Ship To:

#### Stainless Steel T.I.G. Welded Tubing.

Country of Melt: Taiwan, Country of Origin: Taiwan.

Item	Description	Heat No.	Finish	Specification	Grade
1:	3/4" SQ X 0.049"W X 20'	9H855	MF	ASTM A554-16	MT-304
2:	3/4" SQ X 0.120"W X 20'	5H982	MF	ASTM A554-16	MT-304
3:	1-1/2" SQ X 0.180"W X 20'	5G289	MF	ASTM A554-16	MT-304
4:	2" SQ X 0.180"W X 20'	5H035	MF	ASTM A554-16	MT-304
5:	3" SQ X 0.120"W X 20'	TBH100713	MF	ASTM A554-16	MT-304

#### CHEMICAL PROPERTIES

	C	Si	Mn	P	S	Cr	Ni	Mo	N	Cu
1:	.015	.430	1.10	.035	.003	18.21	8.07			
2:	.020	.390	1.43	.029	.010	18.05	8.03			
3:	.018	.390	1.38	.033	.004	18.27	8.05			
4:	.024	.370	1.43	.031	.005	18.19	8.04			
5:	.028	.430	1.21	.033	.003	18.20	8.09			

#### MECHANICAL PROPERTIES

	Tensile (N/mm <sup>2</sup> )	Yield (N/mm <sup>2</sup> )	Elong. (%)	Hardness (HRB)	Flattening	Hydrostatic	Eddy Current
1:	698.00	352.00	46.00	89.50			
2:	641.00	297.00	53.00	86.00			
3:	654.00	327.00	52.00	89.00			
4:	628.00	292.00	53.00	85.00			
5:	668.00	326.00	51.00	88.00			

WE HEREBY CERTIFY THAT TO THE BEST OF OUR KNOWLEDGE, THE MATERIAL LISTED ABOVE HAS BEEN MANUFACTURED IN ACCORDANCE WITH AND MEET THE ABOVE APPLICABLE SPECIFICATIONS AND GRADES, AND ALSO THAT THE MATERIAL WAS PRODUCED IN A MERCURY FREE ENVIRONMENT. THE CHEMICAL COMPOSITIONS OF THE MATERIAL ARE IN ACCORDANCE WITH ASTM A240.

Page: 1/1

Carrie Wang

Authorized Signature

1/11/2018

Date